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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,361	01/12/2001	Hiroshi Murakami	018987-031	9455

7590

09/07/2004

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EXAMINER

DIVINE, LUCAS

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/758,361

Applicant(s)

MURAKAMI ET AL.

Examiner

Lucas Divine

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. The information disclosure statement (IDS) submitted on 4/20/2001 was filed after the mailing date of the application on 1/12/2001. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

2. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The phrase 'detects whether an operator is in a vicinity of each terminal' is not enabling in the specification as to how this detection occurs and what the detector must consist of to complete such a detection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall

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have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 5, 7, 9, 21, 22, 23, and 25 – 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Gase et al. (US 6184996) hereafter referred to as Gase.

Regarding claim 1, Gase teaches a **printer controller 14 that receives print jobs** (col. 3 line 25) **transmitted from a plurality of terminals (Fig. 1), and instructs a printer to perform print processing (col. 3 line 30), the printer controller comprising:**

a detector 24 that detects pieces of operation information (col. 3 line 35, wherein information commands are received from client and col. 3 lines 15-16, wherein the server procedure 24 responds to client information messages), **each relating to a current operation state of one of the plurality of terminals (col. 4 lines 27-36, wherein the computer is in a state --current operation state-- that it has a print job that needs to be processed first/urgent/critical); h**

a priority determining unit 32 that determines priority levels for a plurality of print jobs waiting to be printed (col. 3 lines 33-36, wherein the print jobs are ordered in the queue based on priority, first job has highest priority), a priority level of a print job determined based on a piece of operation information detected by the detector from a terminal that transmitted the print job (col. 3 line 35, wherein information commands determine where the print job is placed at in the queue, and this can be rearranged by further client information command detections); and

a controller 28 that instructs the printer to process the plurality of print jobs in an order based on the determined priority levels (col. 3 line 30 and col. 4 line 41,

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the job queue is the controller between the server procedure and the printer functions, passing the printing unit print jobs to be processed in the order of queue priority as set forth by the priority determining unit).

Regarding claim 5, which depends from claim 1, Gase further teaches that **the detector detects each of the pieces of operation information based on a signal transmitted from each terminal** (commands of col. 3 line 35), **each signal being generated when an input device for a terminal is operated** (these commands are generated via user operation of the client machines, such as using the buttons 60, 62, 64, 66, and 68 in Fig. 4).

Regarding claim 7, the limitations of claim 7 are the same as the limitations of independent claim 1 except the limitations below. The limitations that are the same as claim 1 are taught by Gase and are rejected for the same reasons as discussed in the rejection of claim 1.

Gase further teaches an **image forming apparatus 14**, which includes the print controller 24, that has **an image forming unit that performs print processing corresponding to the received print jobs** (the image forming apparatus 14 inherently includes an information forming unit to complete the printing of print jobs submitted to it, further shown in col. 4 lines 62-46, wherein the apparatus prints a scanned image file).

Regarding claim 9, which depends from claim 7, claim 9 includes all of the limitations of claim 5 and claim 7 as anticipated by Gase, and is therefore rejected for the same reasons as the rejection of claim 5 and claim 7.

Regarding claim 21, Gase teaches a **printer controller 14 that receives print jobs transmitted from a plurality of terminals (Fig. 1), and controls a printer to perform print processing (col. 3 line 30), the printer controller comprising:**

memory that stores each of the received print jobs (wherein the print queue 28 is inherently stored in a memory) in correspondence with information indicating a transmission origin terminal (col. 3 lines 59-62, wherein owning terminal of a job is stored along with the job information);

a transmission control unit that transmits a request signal requesting transmission of a piece of print processing information for a print job to the transmission origin terminal (col. 3 lines 25-28, wherein the controller requests print jobs from the terminal. The transmission control unit is a separate and distinct part of the server procedure from the receiving unit below as shown in the separate functionality of transmitting requests and receiving command information); and

a controller that receives the piece of print processing information transmitted from the terminal that received the request signal (col. 3 line 28, wherein the client responds to the request signal by sending back print processing information), and controls the printer so as to perform print processing of the job, based on the received piece of print processing information (col. 3 lines 29-30, wherein the print file is printed based on the information returned from the client terminal).

Regarding claim 22, which depends from claim 21, Gase further teaches that **the piece of print processing information is a piece of processing priority information indicating a processing priority level of a print job (col. 3 lines 33-36, wherein the**

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responding information from the client terminals are commands that rearrange print priority in the print queue 28).

Regarding claim 23, which depends from claim 22 as it depends from claim 21, Gase further teaches that **the piece of processing priority information is input by an operator into a terminal input device** (these information commands discussed in the rejection of claim 22 are generated via user operation of the client machines using the buttons 60, 62, 64, 66, and 68 in Fig. 4).

Regarding claim 25, which depends from claim 21, Gase further teaches that **the transmission control unit transmits the request signal when the printer is available to process a new print job** (col. 3 lines 25-30, wherein it would have been inherent to one of ordinary skill in the art for the print controller to wait until the printer was available to request the print data information from the client terminal in order to save space at the print controller).

Regarding claim 26, the limitations of claim 26 are all included in the limitations of independent claims 1, 7, and 21. These limitations anticipated by Gase and therefore are rejected for the same reasons as discussed in the rejections of claims 1, 7, and 21.

Regarding claim 27, which depends from claim 26, claim 27 includes all of the limitations of claim 22 and claim 26 as taught by Gase, and is therefore rejected for the same reasons as the rejection of claim 22 and claim 26.

Regarding claim 28, which depends from claim 26, claim 27 includes all of the limitations of claim 25 and claim 26 as taught by Gase, and is therefore rejected for the same reasons as the rejection of claim 25 and claim 26.

Regarding claim 29, Gase teaches a **terminal 12 that transmits print jobs to a printer controller** (col. 3 line 25, wherein it would have been inherent for the terminal to transmit jobs that are received by the printer controller), **the terminal comprising:**

an information generating unit that generates a piece of print processing information indicating processing of a print job that has already been transmitted to the printer controller (col. 3 lines 27-30, wherein the client terminal generates the text information of print job that has already been sent to the printer controller in line 25);

a reception control unit that receives a request signal requesting the transmission of the piece of print processing information from the printer controller (col. 3 line 27, wherein it would have been inherent to one of ordinary skill in the art that the client terminal has a reception control unit in order to accept the requests from the printer controller); **and**

a transmission control unit that transmits the piece of print processing information generated when the request signal is received, in response to the request signal (col. 3 line 29, wherein the responding is a transmission of the processing information).

Regarding claim 30, which depends from claim 29, claim 30 includes all of the limitations of claim 22 and claim 29 as taught by Gase, and is therefore rejected for the same reasons as the rejection of claim 22 and claim 29.

4. Claims 13 – 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Akabori et al. (US 5940582) hereafter referred to as Akabori.

Regarding claim 13, Akabori teaches a **printer controller 1 that receives print jobs transmitted from a plurality of terminals (Ref. nos. 2-1 – 2-N), and instructs a printer 4 to perform print processing, the printer controller comprising:**

memory that stores each of the received print jobs (Fig. 7 ref. no. 12, col. 5 line 38) in correspondence with information indicating a transmission origin terminal (Fig. 4 ref. no. 82, wherein the origin terminal is identified);

a first timer that measures, for each terminal, an elapsed time since reception of a most recent print job (Fig. 4 ref. nos. 83 and 84 and Fig. 12 ref. no. 231 and Fig. 21, wherein timers tracking the arrival, current wait time, and execution time for all jobs for use in timing calculations taught throughout Akabori -- calculation examples at col. 8 lines 4 and 49 and col. 10 line 8 -- are inherent to the disclosed invention);

a priority determining unit (shown in priority determining steps of Figs. 10 and 20) that determines a priority level for each terminal according to the measured elapsed times (Fig. 4 and Figs. 11a-11d, wherein the print job processing order is shown in order of priority, with the oldest jobs to be printed first); and

a controller that instructs the printer to process the plurality of print jobs stored in the memory (col. 5 lines 26-28) in an order based on the determined priority levels (Fig. 11, col. 7 lines 44-47 and col. 9 line 41, wherein print jobs are printed in order of their priority levels).

Regarding claim 14, which depends from claim 13, Akabori further teaches **the priority determining unit sets a higher priority level for (a) a print job from a terminal with an elapsed time exceeding a specified value than for (Fig. 12 ref. nos. 233 and 236, wherein a job is given interrupt priority if the specified end time is**

exceeded shown in Fig. 11c). **(b) a print job from a terminal with an elapsed time no more than the specified value** (Fig. 12, ref. nos. 233, 235, and 237, wherein if the job has not exceeded the specific value, it is placed in the print order below the jobs of interrupt priority shown in Fig. 11d).

Regarding claim 15, which depends from claim 13, Akabori further teaches that **the priority determining unit sets higher priority levels for print jobs from terminals with longer elapsed times** (Fig. 4, wherein the jobs having the longest elapsed times are placed at the top of the print order).

Regarding claim 16, which depends from claim 13, Akabori further teaches a **second timer that measures an elapsed time since each print job was received** (multiple timers tracking the arrival, current wait time, and execution time for all jobs for use in timing calculations taught throughout Akabori are inherent as discussed in the rejection of claim 13), **wherein the priority determining unit changes the priority level of a print job when a corresponding measured elapsed time exceeds a specified value** (Fig. 12 ref. nos. 233 and 236, wherein a job is given interrupt priority if the specified end time is exceeded).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 10, and 17 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gase and Akabori.

Regarding claim 6, which depends from claim 1, claim 6 includes all of the limitations of claim 1 which are rejected for the reasons stated above in the rejection of claim 1 based on the teachings of Gase.

Gase does not teach **an elapsed time measuring unit for measuring an elapsed time since each print job was received, wherein the priority determining unit changes the priority level of a print job when a corresponding measured elapsed time exceeds a specified value.**

Akabori teaches **an elapsed time since unit for measuring an elapsed time since each print job was received** (multiple timers tracking the arrival, current wait time, and execution time for all jobs for use in timing calculations taught throughout Akabori are inherent as discussed in the rejection of claim 13), **wherein the priority determining unit changes the priority level of a print job when a corresponding measured elapsed time exceeds a specified value** (Fig. 12 ref. nos. 233 and 236, wherein a job is given interrupt priority if the specified end time is exceeded).

Gase and Akabori are combinable because they both teach print job handling systems with input terminals, print controllers, and printers for job outputs.

It would have been obvious to one of ordinary skill in the art to include the print job timing system of Akabori in the printing system of Gase. The motivation for doing so would have been to allow the user more control over the timing of their print jobs.

Regarding claim 10, which depends from claim 7, Gase teaches all of the limitations of the independent claim 7 as discussed above. Akabori teaches the

limitations of claim 10, which are the same limitations as discussed in the rejection of claim 6. Therefore, claim 10 is rejected for the reasons stated above in the rejections of claims 7 and 6.

Regarding claim 17, the limitations of claim 17 are the same as the limitations of claim 13 except for the limitation listed below. Akabori teaches all of the limitations of claim 13 and these limitations are rejected for the reasons stated in the rejection of claim 13.

Akabori does not teach an **image forming apparatus with an image forming unit that performs print processing corresponding to the received print jobs** that holds the print controller functionality of claim 13.

Gase teaches an **image forming apparatus 14**, which includes print controller functionality, that has an **image forming unit that performs print processing corresponding to the received print jobs** (the image forming apparatus 14 inherently includes an information forming unit to complete the printing of print jobs submitted to it, further shown in col. 4 lines 62-46, wherein the apparatus prints a scanned image file). Thus, Gase teaches placing the print controller functionality at the image forming apparatus.

It would have been obvious to one of ordinary skill in the art to place the print controller functionality of Akabori in the print controller unit of the image processing apparatus of Gase. The motivations for doing so would have been to provide a network printer with the abilities of a print controller to reduce hardware costs, make the printer more marketable, and to reduce network delay time of the intermediary steps of routing a print job through a print controller to get the job to the network printer.

Regarding claims 18 – 20, which depend from claim 17, the limitations of claims 18 – 20 are the same as the limitations of claim 14 – 16. These limitations are taught by Akabori and are discussed above in the rejection of claims 14 – 16. Claims 18 – 20 are therefore rejected for the same reasons as claims 14 – 16 as stated above.

6. Claims 2, 8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gase in view of Skinner et al. (US 5696702) hereafter referred to as Skinner.

Regarding claim 2, which depends from claim 1, Gase teaches all of the limitations of independent claim 1 as stated in the rejection above.

Gase does not teach that **the piece of operation information is a non-operational period during which the terminal has not been operated.**

Skinner teaches **the piece of operation information, a non-operational period during which the terminal has not been operated** (col. 2 lines 53-54 and col. 5 lines 51-55, wherein the non activity on a input terminal is recorded and col. 4 lines 5-6 wherein this information can be routed to a data collecting means located on the networked system).

It would have been obvious to one of ordinary skill in the art to add the user tracking system of Skinner to report use to the print controller of Gase. The motivation for doing so would have been to allow the printing system of Gase to predict which users are waiting at the image processing apparatus for their print jobs.

Regarding claim 8, which depends from claim 7, Gase teaches all of the limitations of the independent claim 7 as discussed above. Claim 8 includes all of the limitations of claim 2 as it is applied to claim 1. The combination of Gase in view of

Skinner teaches the limitations of claim 2 as stated above. Therefore, claim 8 is rejected for the reasons state above in the rejection of claim 2.

Regarding claim 12, a reading suggests that the vicinity disclosed on page 109 line 6 is equivalent to the operator using the terminal as inferred from detections described the specification pages 17 and 18. Thus, operation information is detected by the detector. Claim 12 therefore has the same limitations as the combined claims 1 and 2. Accordingly, claim 12 is rejected for the reasons stated above in the rejections of claim 1 and 2.

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akabori in view of Skinner.

Regarding claim 24, which depends from claim 22 as it depends from claim 21, Akabori teaches all of the limitations of independent claim 22 and 21 as discussed above in the rejections of claims 22 and 21. Akabori does not teach that **the piece of processing priority information is generated according to an amount of time during which an operator has not operated a terminal.**

Skinner teaches **the piece of processing priority information is generated according to an amount of time during which an operator has not operated a terminal** (col. 2 lines 53-54 and col. 5 lines 51-55, wherein the non activity on a input terminal is recorded and col. 4 lines 5-6 wherein this information can be routed to a data collecting means located on the networked system).

It would have been obvious to one of ordinary skill in the art to add the user tracking system of Skinner to report use to the print controller of Akabori. The

motivation for doing so would have been to allow the printing system of Akabori to have a priority rule to predict which users are waiting at the image processing apparatus for their print jobs.

8. Claims 3 and 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Gase and Skinner as applied to claim 2 above, and further in view of Akabori.

Regarding claim 3, which depends from claim 2 as it depends from claim 1, Gase and Skinner teach the limitations of claims 1 and 2 as discussed above in the rejections of claims 1 and 2.

Gase and Skinner do not teach **the priority determining unit sets a higher priority level for (a) a print job from a terminal with a period that exceeds a specified value than for (b) a print job from a terminal with a period that is no more than the specified value**

Akabori teaches **the priority determining unit sets a higher priority level for (a) a print job from a terminal with a period that exceeds a specified value** (Fig. 12 ref. nos. 233 and 236, wherein a job is given interrupt priority if the specified end time is exceeded shown in Fig. 11c) **than for (b) a print job from a terminal with a period that is no more than the specified value** (Fig. 12, ref. nos. 233, 235, and 237, wherein if the job has not exceeded the specific value, it is placed in the print order below the jobs of interrupt priority shown in Fig. 11d).

It would have been obvious to one of ordinary skill in the art to include the print job timing system of Akabori in the printing system of Gase and Skinner. The motivations for doing so would have been to allow the user more control over the timing

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of their print jobs and to set threshold time values to allow a user to ensure their print job is printed in a timely fashion.

Regarding claim 4, which depends from claim 2 as it depends from claim 1, Gase and Skinner teach the limitations of claims 1 and 2 as discussed above in the rejections of claims 1 and 2.

Gase and Skinner do not teach **the priority determining unit sets higher priority levels for print jobs from terminals with longer time information.**

Akabori teaches **the priority determining unit sets higher priority levels for print jobs from terminals with longer time information** (Fig. 4, wherein the jobs having the longest elapsed times are placed at the top of the print order).

It would have been obvious to one of ordinary skill in the art to include the print job timing system of Akabori in the printing system based on terminal non-operational time of Gase and Skinner. The motivation for doing so would have been to allow the user more control over the timing of their print jobs and to ensure timely printing of user print jobs.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gase and Skinner as applied to claims 2, 8, and 12 above, and further in view of Suzuki et al. (US 6606163) hereafter referred to as Suzuki.

Regarding claim 11, Gase teaches **a terminal 12 that transmits print jobs to a printer controller 20 controlling a printer 14 shared with a plurality of other terminals.** Gase also teaches that the server functionality can be placed inside the client

terminal as shown in figure 1, wherein the server functionality 20 is inside the client processor 12.

Gase does not teach **a transmission controller that transmits the input print job after waiting for the timer to measure a specified time; a receiving unit that receives a print job input by an operator; or a timer that measures an elapsed time since an input device that includes the receiving unit was last operated.**

Skinner teaches: **a receiving unit that receives a print job input by an operator** (Microsoft Windows Graphic Environment 120 accepts jobs from Keyboard 102 and Mouse 104) **and a timer that measures an elapsed time since an input device that includes the receiving unit was last operated** (col. 2 lines 53-54 and col. 5 lines 51-55, wherein the non activity on a input receiving unit of a terminal is recorded).

Gase and Skinner do not teach **a transmission controller that transmits the input print job after waiting for the timer to measure a specified time.**

Suzuki teaches **a transmission controller that transmits the input print job after waiting for the timer to measure a specified time** (Fig. 1 ref. no. 20, col. 8 lines 45-67, wherein a print job is held in a wait state until a timeout – line 67 – thereafter it is transmitted).

It would have been obvious to one of ordinary skill in the art to place the wait state of Suzuki to the input activity tracking system of Skinner applied in the overall printing system of Gase. The motivations for doing so would have been to give the user more control over the timing of print jobs and to avoid system overload by waiting until activity level is at a minimum to transmit the job.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Divine whose telephone number is 703-306-3440. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 703-308-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lucas Divine
Examiner
Art Unit 2624

ljd



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